IN THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for modulating the morphology of softwood fibers comprising the steps of:

subjecting pulp containing softwood fibers to a solution containing ~~transitional~~ ferrous (II) or ferric (III) metal ions at a concentration of from 0.002% to about 0.1% by weight based on pulp and a peroxide at a pH between about 2 and about 7 ~~1 and about 9~~ for a time of from about 10 minutes to about 10 hours at a temperature from about 40 to 120°C to cause oxidative degradation of cellulose of such softwood fibers, and

subjecting the treated fibers to a refining treatment to form refined paper making fibers, wherein said method reduces fiber suspension viscosity.

2. (Canceled).

3. (Currently Amended) The method of Claim 1 wherein ferrous chloride, ferrous sulfate, or ferric chloride are a source of said ~~transitional~~ ferrous (II) or ferric (III) metal ions ~~are selected from iron, copper and combinations thereof~~.

4. (Original) The method of Claim 1 wherein said pH is between about 3 and about 7.

5-6. (Canceled).

7. (Previously Presented) The method of Claim 1 wherein said peroxide is present in said solution at a concentration between about 0.2% and about 5% based on pulp.

8. (Canceled).

9. (Previously Presented) The method of Claim 1 wherein said softwood fibers are subjected to said solution for a time sufficient to substantially act on at least the cellulose and hemi-cellulose of the pulp, causing oxidation and oxidative degradation of cellulose fibers.

10-19. (Canceled).

20. (Previously Presented) The method of claim 1 wherein said softwood fibers are Kraft fibers.

21. (Previously Presented) The method of claim 1 wherein said softwood fibers are Southern Pine fibers.

22. (Previously Presented) The method of claim 1 wherein said softwood fibers are bleached fibers.

23. (Previously Presented) The method of claim 1 wherein said softwood fibers are bleached Kraft fibers.

24. (Previously Presented) The method of claim 1 wherein said refined paper making fibers exhibit a substantially shorter fiber length and distribution and enhanced fiber collapsibility than prior to said refining treatment.

25. (Previously Presented) The method of claim 1 wherein said refined paper making fibers exhibit paper making properties substantially functionally equivalent to hardwood pulp papermaking properties.

26. (Currently Amended) The method of claim 1 wherein said subjecting step comprises treating said pulp containing softwood fibers with said composition comprising peroxide and ferrous (II) and ferric (III) ~~transitional~~ metal ions.

27. (Currently Amended) The method of claim 4 wherein ferrous chloride, ferrous sulfate, or ferric chloride are a source of said ~~transitional~~ ferrous (II or ferric (III) metal ions ~~are selected from iron, copper and combinations thereof~~.

28. (Previously Presented) The method of Claim 1, wherein said pH is between about 3 ~~1~~ and about 7.

29. (Previously Presented) The method according to Claim 1, further comprising
adding a source of ferrous (II) or ferric (III) ~~transitional~~ metal ions ~~ion~~ to said peroxide.

30. (Currently Amended) The method according to Claim 29, further comprising:
adding a source of ferrous (II) or ferric (III) ~~transitional~~ metal ions ~~ion~~ to said peroxide in the presence of the pulp.

31. (Currently Amended) The method according to Claim 30, further comprising:
adding between 0.002% and about 0.1% of ferrous (II) or ferric (III) ~~a transitional~~ metal ions ~~ion~~ based on pulp to said peroxide in the presence of the pulp.

32. (Currently Amended) The method according to Claim 29, further comprising:
adding between 0.002% and about 0.1% of ferrous (II or ferric (III) ~~a transitional~~ metal ions ~~ion~~ based on pulp.

33. (Cancelled).

34. (Currently Amended) A method for modulating the morphology of softwood fibers, comprising:
adding ferrous (II) or ferric (III) metal ions ~~a transitional metal ion~~ at a concentration of from 0.002% to about 0.1% by weight based on pulp to a solution comprising peroxide to form a metal-ion activated peroxide;
contacting pulp including softwood fibers with the metal ion-activated peroxide at a pH between about 2 and about 7 ~~1 and about 9~~ for a time of from about 10 minutes to about

10 hours at a temperature from about 40 to 120°C to cause oxidative degradation of cellulose of such softwood fibers, and

refining the treated fibers to form fibers having a modified morphology, wherein said method reduces fiber suspension viscosity.

35. (Canceled).

36. (Previously Presented) The method according to Claim 34, wherein ferrous chloride, ferrous sulfate, or ferric chloride are a source of the ferrous (II) or ferric (III) metal ions ~~transitional metal ion is a metal salt~~.

37. (Canceled).

38. (Currently Amended) The method according to Claim 34, wherein said pH is between about 3 ~~1~~ and about 7.

39. (Previously Presented) The method according to Claim 1, wherein said pulp further comprises hardwood fibers.

40. (Cancelled).

41. (Currently Amended) The method according to Claim 34 ~~40~~, wherein said pulp comprises between about 50% and about 90% softwood fibers and between about 10% and about 50% hardwood fibers.